Appendix S3 – Exploratory analyses: Indirect effect of empowerment

Empowerment influences whether a person believes that it is possible to engage in actions to positively change one's lives. Such actions could subsequently lead to the improvement of one's life or status. Psychologically empowered individuals develop a sense of personal mastery, and consider that they are capable of achieving their goals and proactively approach life circumstances (Conger & Kanungo, 1988). Empowerment has been related to many positive outcomes, such as more productivity, job satisfaction, organizational commitment (Kirkman & Rosen, 1999) and positive changes for children who had behavioral problems (Graves & Shelton, 2007). Because of the psychological importance of this variable, we argue that feelings of empowerment contribute to the concrete belief that a positive change in social standing is a real possibility. Therefore, we explored the extent to which empowerment mediated the relationships between (i) type of help and the perception of improving one's life because of the aid, and (ii) type of help and beliefs that personal and family changes are possible.

Analyses. To test the extent to which empowerment explained the relationship between help type, life improvement, and change beliefs, we used confirmatory factor analysis (CFA) and structural equation modeling (SEM). SEM models were estimated using the Lavaan package (Rosseel, 2012) and the SemTools package (SEMTools Contributors, 2016).

In order to evaluate the model fit we used the Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI). Values closer to .95 are considered models with an acceptable goodness of fit (Hu & Bentler, 1999). Likewise, we employed the Root Mean Square Error of Approximation (RMSEA) that measures the lack of fit in a model compared to a perfect (saturated) model (Browne & Cudeck, 1992). Values of .06 or less indicate a good-fitting model relative to the model degrees of freedom (Hu & Bentler, 1999).

The Monte Carlo Method for Assessing Mediation (MCMAM) was implemented to estimate the 95% confidence intervals of the indirect effects. The online utility created by Selig and Preacher (2008) was used for this purpose. The MCMAM comprises the estimation of a distribution using the parameter estimates and their asymptotic variances and covariance. Thus, random draws from the joint distribution of a and b are simulated and repeated a large number of times. The resulting distribution of the a*b values is used to estimate a confidence interval around the observed value of a*b (Selig & Preacher, 2008).

Results. The measurement model demonstrated acceptable fit (χ^2 (60) = 99.90, p <.001, RMSEA =.07 [0.042-0.088], CFI = .93, TLI = .91). All indicators loaded significantly onto their target latent variables. The results suggested that empowerment, both change beliefs and life improvement can be considered as separate constructs. See Appendix S5 for latent factor correlation between items.

The model is presented in Figure 1 (see Appendix S4). The model fit for the indirect effect model was acceptable (χ^2 (69) = 109.74, p =.001, RMSEA = .06 [0.039-0.082] CFI = 0.93, TLI = 0.91). Results indicate a significant indirect effect of help type on change beliefs by empowerment (b = .31 (0.13), p = .008, CI [0.68,0.61]), a significant indirect effect of help type on family change beliefs by empowerment (b = 0.12 (0.07), p = .043, CI [0.008, 0.274]) and a significant indirect effect of help type on life improvement by empowerment (b = 0.25 (0.12), p = .019, CI [0.05, 0.52]).

Once the confidence intervals of the indirect effects were estimated, a nested model was fitted to examine the direct effect of help type on life improvement, personal and family change beliefs. In this model we fixed the direct effect paths to zero and compared this model versus the model where these paths were freely estimated. The LRT test showed that there is no significant misfit if direct effects are fixed to zero ($\Delta\chi^2$ (3) = 5.644, p = .129). In other words, we have evidence that the variance of the outcomes is significantly explained by the

indirect paths. In sum, empowerment explained the relationship between help type and life improvement, and help type and change beliefs.

Discussion. Although many studies have explained the benefits of feeling empowered, few psychological studies have captured the consequences of feeling empowered for impoverished CT aid recipients. As shown in this study, feelings of empowerment are a key factor in the recipients' life improvements and in their belief that changes are possible. Empowerment explained the relationships between help type and life improvement, and help type and change beliefs. This data cannot demonstrate that empowerment is related to actual change, however, it shows that empowerment is related to a belief that a change is possible, which might be an important precursor for actual change.

These results provide valuable information of how real life CT recipients experience the help they receive, yet this model has several limitations. Due to the nature of our data (i.e. cross-sectional) we cannot demonstrate causal effects. Moreover, this model does not have a perfect fit. However, we believe this model is a good approximation taking into account the population we got access to (e.g. low income participants and low literacy rate) and it should be evaluated in the context of the research design and the difficulties to collect the data in the traditional communities. It is important to mention that alternative models are plausible. Although based on the theory, empowerment seems to better explain these relationships, perhaps other variables, such as life improvement, could mediate the effects of help type and change beliefs. Future studies should examine the link between empowerment, change beliefs and actual change in longitudinal experimental studies.

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